DRIVER TAILGATE LESSON PLAN

Skid Recovery and Control

CITY AND COUNTY OF HONOLULU
DEPARTMENT OF HUMAN RESOURCES
Division of Industrial Safety and Workers' Compensation

SKID RECOVERY AND CONTROL

THERE ARE THREE BASIC CONTROLS IN ANY VEHICLE; THE ACCELERATOR, THE BRAKES, AND THE STEERING WHEEL. ALL THREE DEPEND UPON TIRE TRACTION — FRICTION — TO DO THEIR WORK. WITHOUT FRICTION BETWEEN THE TIRES AND THE ROAD SURFACE, A VEHICLE CANNOT BE SAFELY CONTROLLED. SKIDDING OCCURS WHENEVER THE TIRES LOSE THEIR GRIP ON THE ROAD SURFACE. THERE ARE FOUR COMMON CAUSES FOR SKIDDING:

OVERBRAKING. BRAKING TOO HARD AND LOCKING THE WHEELS. SKIDDING CAN ALSO OCCUR WHEN USING THE SPEED RETARDER ON HEAVY VEHICLES, ESPECIALLY WHEN THE ROAD IS SLIPPERY.

OVERSTEERING. TURNING THE VEHICLE MORE SHARPLY THAN THE VEHICLE CAN SAFELY TURN AT A GIVEN SPEED. IMPROPER LOADING MAY MAGNIFY THIS PROBLEM.

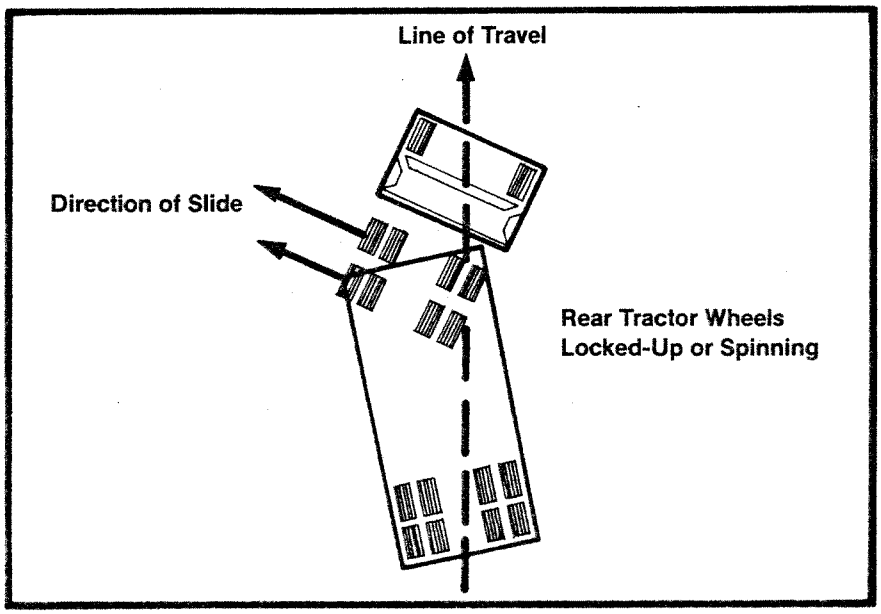
OVERACCELERATION. SUPPLYING TOO MUCH POWER TO THE DRIVE WHEELS, CAUSING THEM TO SPIN.

DRIVING TOO FAST. THE MOST SERIOUS SKIDS RESULT FROM DRIVING TOO FAST FOR ROAD CONDITIONS. DRIVERS WHO ADJUST THEIR SPEED FOR DRIVING CONDITIONS AND DO NOT OVER ACCELERATE DO NOT USUALLY NEED TO OVERBRAKE.

DRIVE-WHEEL SKIDS

BY FAR THE MOST COMMON SKID IS ONE IN WHICH THE REAR WHEELS LOSE TRACTION THROUGH EXCESSIVE BRAKING OR ACCELERATION. SKIDS CAUSED BY ACCELERATION USUALLY HAPPEN ON SLIPPERY SURFACES. THEY CAN BE EASILY CORRECTED BY TAKING YOUR FOOT OFF THE ACCELERATOR.

REAR WHEEL BRAKING SKIDS OCCUR WHEN THE REAR DRIVE-WHEELS LOCK. BECAUSE LOCKED WHEELS HAVE LESS TRACTION THAN ROLLING WHEELS, THE REAR WHEELS WILL USUALLY SLIDE SIDEWAYS IN AN ATTEMPT TO "CATCH UP" WITH FRONT WHEELS. IN A BUS OR STRAIGHT TRUCK, THE VEHICLE WILL SLIDE SIDEWAYS IN A "SPIN OUT". WITH VEHICLES TOWING TRAILERS, A DRIVE-WHEEL SKID CAUSES THE TRAILER TO PUSH THE TOWING VEHICLE SIDEWAYS, RESULTING IN A SUDDEN JACKKNIFE CONDITION.



CORRECTING A DRIVE-WHEEL BRAKING SKID

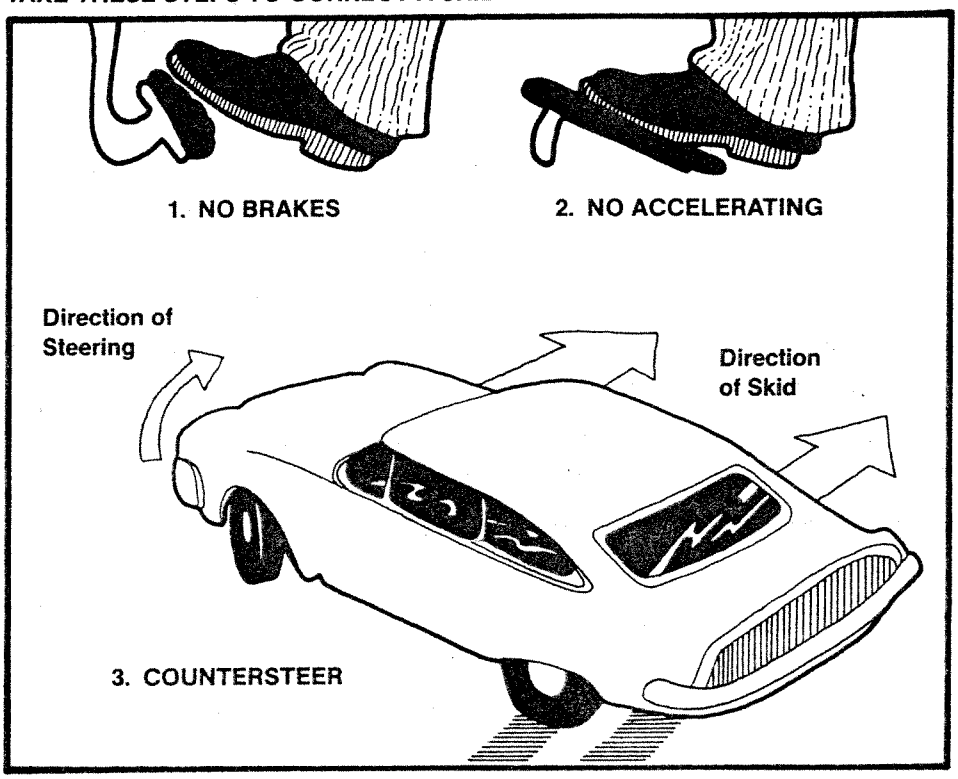
TO CORRECT A DRIVE-WHEEL BRAKING SKID:

STOP BRAKING. THIS WILL LET THE REAR WHEELS ROLL AGAIN, AND KEEP THEM FROM SLIDING ANY FURTHER.

TURN QUICKLY. WHEN A VEHICLE BEGINS TO SLIDE SIDEWAYS, QUICKLY STEER IN THE DIRECTION YOU WANT THE VEHICLE TO GO — DOWN THE ROAD. YOU MUST TURN THE WHEEL QUICKLY.

COUNTERSTEER. AS A VEHICLE TURNS BACK ON COURSE, IT HAS A TENDENCY TO KEEP RIGHT ON TURNING. UNLESS YOU TURN THE STEERING WHEEL QUICKLY THE OTHER WAY, YOU MAY FIND YOURSELF SKIDDING IN THE OPPOSITE DIRECTION.

TAKE THESE STEPS TO CORRECT A SKID



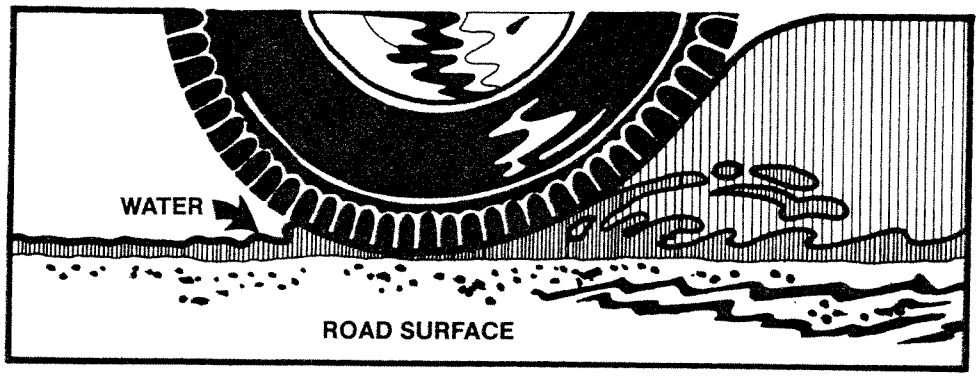
FRONT-WHEEL SKIDS

MOST FRONT-WHEEL SKIDS ARE CAUSED BY DRIVING TOO FAST. OTHER CAUSES ARE LACK OF TREAD ON FRONT TIRES (MUST BE **AT LEAST 4/32 INCH DEEP)** OR CARGO LOADED SO THAT NOT ENOUGH WEIGHT IS ON THE FRONT AXLE. IN A FRONT-WHEEL SKID, THE FRONT END TENDS TO

GO IN A STRAIGHT LINE REGARDLESS OF HOW MUCH YOU TURN THE STEERING WHEEL. ON A VERY SLIPPERY SURFACE, YOU MAY NOT BE ABLE TO STEER AROUND A CURVE OR TURN. WHEN A FRONT-WHEEL SKID OCCURS, THE ONLY WAY TO STOP THE SKID IS TO LET THE VEHICLE SLOW DOWN. STOP TURNING AND/OR BRAKING. SLOW DOWN AS QUICKLY AS POSSIBLE BY TAKING YOUR FOOT OFF THE ACCELERATOR.

HYDROPLANING

STRICTLY SPEAKING, HYDROPLANING IS NOT A SKID, BUT ITS EFFECTS ARE SIMILAR TO THE SKIDS PREVIOUSLY DISCUSSED. HYDROPLANING IS CAUSED BY A BUILDUP OF WATER ON THE PAVEMENT. AS THE VEHICLE TRAVELS ALONG AT RELATIVELY LOW SPEEDS, THE TIRE TREADS NORMALLY CLEAR THEIR OWN PATH THROUGH THE WATER. AT HIGHER SPEEDS, THE TREADS CANNOT WIPE THE WATER AWAY FAST ENOUGH. CONSEQUENTLY, THE WATER IS DRAWN UNDER THE TIRES AT HIGH PRESSURE. THIS HAS THE EFFECT OF LIFTING THE TIRES SLIGHTLY OFF THE ROAD. HYDROPLANING AT SPEEDS UP TO THIRTY MILES AN HOUR IS UNUSUAL. FROM THIRTY TO FIFTY MILES AN HOUR, HYDROPLANING NORMALLY CAUSES LITTLE TROUBLE. HOWEVER, AT SPEEDS ABOVE FIFTY MILES AN HOUR, HYDROPLANING CAN BE SEVERE ENOUGH TO BREAK THE TRACTION OF THE TIRES. WHEN THIS HAPPENS, THE DRIVER HAS NEITHER BRAKING NOR STEERING CONTROL. THE ONLY WAY TO COMBAT HYDROPLANING IS TO AVOID IT BY TRAVELING AT REDUCED SPEEDS ON WET ROADS. IF HYDROPLANING DOES OCCUR, THE ONLY CORRECTIVE MEASURE IS TO RELEASE THE ACCELERATOR, COUNTERSTEER, AND REDUCE THE VEHICLE'S SPEED UNTIL THE TIRES REGAIN THEIR TRACTION.



EFFECTS OF HYDROPLANING: RIDING ON WATER.

TEST YOUR KNOWLEDGE

1. WHAT ARE THE FOUR COMMON CAUSES OF SKIDDING?
2. WHAT ACTION SHOULD YOU TAKE IN THE EVENT OF A DRIVE-WHEEL SKID?
3. WHAT IS HYDROPLANING?
4. HOW CAN YOU PREVENT FRONT WHEEL SKIDS?

IF YOU CAN ANSWER ALL OF THESE QUESTIONS CORRECTLY YOU PROBABLY KNOW HOW TO HANDLE SKIDS CORRECTLY AND SAFELY.

IF NOT, YOU SHOULD REVIEW THIS MATERIAL AGAIN.